

Polio: is the end in sight?

World Polio Day, on October 24, is an annual opportunity to revitalise attention and efforts towards the global eradication of this now rare but still fatal and devastatingly disabling infectious disease. 2014 has not felt like a good year for infectious disease control, yet just 3 months from now, a major date in the Polio Eradication and Endgame Strategic Plan 2013–18 will be reached. The first objective of the plan, launched in April last year, was “to stop all [wild poliovirus] transmission by the end of 2014”. Given all that has happened this year, is this target still realistic?

WHO's declaration of polio as a Public Health Emergency of International Concern in May did not bode well. In response to an upsurge in exportation of wild poliovirus across national borders in late 2013 and early 2014, the agency urged countries from which wild poliovirus was known to have been exported to adopt a set of emergency measures. Thus Pakistan, Cameroon, and Syria were instructed to ensure that all residents and long-term visitors leaving these countries were vaccinated prior to travel. Afghanistan, Equatorial Guinea, Ethiopia, Iraq, Israel, Somalia, and Nigeria were also encouraged to adopt this strategy.

The plan, to an extent, seems to be working. As of October 8, only 19 (9%) of the 222 cases of wild poliovirus reported globally were in non-endemic countries. This figure compares with 188 (67%) of 282 at the same point in 2013. Similarly, concerted efforts to strengthen routine and supplementary vaccination programmes within countries have seen wild poliovirus cases plummet over the past year in countries such as Somalia (from 170 to five cases, year-to-date), Nigeria (49 to six), and Kenya (14 to zero). Even crisis-wracked Syria, which reported 35 cases of wild poliovirus in the latter half of 2013, has only reported one so far this year. However, severe threats remain.

Despite heroic efforts by UN agencies, non-governmental organisations, and local health workers and volunteers that saw 25 million children in Syria and surrounding Middle-Eastern countries vaccinated earlier this year, new horrors in the form of extremist violence threaten the subsequent rounds of vaccination needed to ensure full protection and to reach those previously missed. The physical challenges of access to those in need of vaccination and of ensuring appropriate storage of vaccines are formidable enough. Yet psychological obstacles are proving even more intractable.

The death of 15 Syrian children after receiving a measles vaccine accidentally reconstituted with the neuromuscular blocking agent atracurium could prove a devastating setback for vaccination programmes in the region. Local suspicions that Western-produced polio vaccines contain HIV or induce sterility rumble on, and such rumours in northern Nigeria in 2003 led to a year-long boycott of the vaccine that had repercussions far beyond Nigeria's borders. Thankfully Nigeria seems to be back on track, but its experience should be heeded by policy makers and implementers alike to ensure that the tremendous efforts to contain polio across the Middle East are not jeopardised.

Only one country has seen a significant increase in wild poliovirus case numbers this year. Pakistan recorded a depressing 206 cases as of October 13—more than twice as many as in the whole of 2013. Local vaccinators continue to be murdered in retaliation for Western military action in northwestern tribal areas and after the US Central Intelligence Agency allegedly used a vaccine campaign as cover in the hunt for Osama Bin Laden. And although Pakistan earlier redoubled vaccination efforts via house-to-house visits and at checkpoints, a recent government ground offensive against the Taliban and a major political crisis in Islamabad have seemingly undermined these efforts. Vaccine coverage in the tribal areas remains unacceptably low.

So will wild poliovirus transmission be stopped by the end of 2014? It seems highly unlikely. Although the most recent wild poliovirus case in Africa was reported on August 11, and the most recent from the Middle East on April 7, cases in Pakistan continued to be reported into October and show no sign of abating. Pakistan's neighbours show that success is possible, with India being declared officially polio-free earlier this year and Nepal moving to the next phase of the Strategic Plan—namely withdrawal of live-attenuated oral polio vaccine and replacement with inactivated vaccine. Pakistan must commit to reaching vulnerable populations with polio immunisation—as part of other sought-after health services and not as potentially suspicious-looking vertical campaigns. The future of the world's polio status likely depends on it.

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For **World Polio Day** see <http://www.endpolio.org/worldpolioday>

For the **Polio Eradication and Endgame Strategic Plan 2013–2018** see <http://www.polioeradication.org/ResourceLibrary/Strategyandwork.aspx>

For **WHO's declaration of a Public Health Emergency of International Concern** see <http://www.who.int/mediacentre/news/statements/2014/polio-20140505/en/>